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IS 13856 (1993): Tea - Determination of alkalinity of water-soluble ash [FAD 6: Stimulant Foods]

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IS 13856 : 1993
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भारतीय मानक

चाय — जल-घुलनशील भस्म की क्षारीयता ज्ञात करना

Indian Standard

TEA — DETERMINATION OF ALKALINITY OF WATER-SOLUBLE ASH

UDC 663·95 : 543·257·1

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

October 1993

Price Group 1

Stimulant Foods Sectional Committee, FAD 23

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 7514 : 1990 'Instant tea in solid form—Determination of total ash' issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendation of the Stimulant Foods Sectional Committee (FAD 23), and approval of the Food and Agriculture Division Council.

In the adopted standard certain terminology and conventions are not identical with those used in Indian Standards; attention is drawn specially to the following:

a) Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Indian Standard'; and

b) Comma (,) has been used as a decimal marker, while in Indian Standard the current practice is to use point (.) as the decimal marker.

CROSS REFERENCES

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Indian Standard*	*Degree of Correspondence*
ISO 1572 : 1980	IS 13852 : 1993 Tea — Preparation of ground sample of known dry matter content	Identical
ISO 1575 : 1987	IS 13854 : 1993 Determination of total ash Sampling	Identical
ISO 1576 : 1988	IS 13855 : 1993 Tea — Determination of water-soluble ash and water-insoluble ash	Identical

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

TEA — DETERMINATION OF ALKALINITY OF WATER-SOLUBLE ASH

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the alkalinity of water-soluble ash of tea.

2 REFERENCES

ISO 1572, *Tea — Preparation of ground sample of known dry matter content.*

ISO 1575, *Tea — Determination of total ash.*

ISO 1576, *Tea — Determination of water-soluble ash and water-insoluble ash.*

3 DEFINITION

For the purpose of this International Standard the following definition applies:

alkalinity of the water-soluble ash : Either the amount of acid required to neutralize the aqueous extract of the total ash, or the amount of alkali equivalent to this acid, when determined under the conditions specified.

4 PRINCIPLE

Titration of the filtrate from the determination of water-soluble ash, with standard hydrochloric acid solution, using methyl orange as indicator.

5 REAGENTS

5.1 Hydrochloric acid, 0,1 N standard volumetric solution (see note to 7.1.1).

5.2 Methyl orange indicator, containing 0,5 g of methyl orange per litre.

6 PROCEDURE

6.1 Test portion

Use the filtrate obtained from the determination specified in ISO 1576.

6.2 Determination

Cool the test portion and titrate it with the hydrochloric acid solution (5.1), using the methyl orange indicator (5.2).

Carry out two determinations using the filtrate obtained from two determinations of water-soluble ash and water-insoluble ash.

7 EXPRESSION OF RESULTS

7.1 Method of calculation and formulae

Express the alkalinity in terms of milliequivalents, i.e. of the number of millilitres of normal acid required per 100 g of ground sample (see ISO 1572), on the dry basis, or as a percentage by mass of potassium hydroxide (KOH) in the ground sample, on the dry basis.

7.1.1 The alkalinity of the water-soluble ash, expressed as milliequivalents per 100 g of ground sample, on the dry basis, is given by the formula

$$\frac{V}{10} \times \frac{100}{m_0} \times \frac{100}{RS}$$

where

V is the volume, in millilitres, of 0,1 N hydrochloric acid solution required (see note below);

m_0 is the mass, in grams, of the test portion of the ground sample used for the determination of total ash (see ISO 1575);

RS is the dry matter content, as a percentage by mass, of the ground sample, determined in accordance with ISO 1572.

NOTE — If the standard volumetric solution used is not of exactly the strength indicated in 5.1, a suitable correction factor should be used in calculating the result.

7.1.2 The alkalinity of the water-soluble ash, expressed as a percentage by mass of potassium hydroxide, in the ground sample, on the dry basis, is given by the formula

$$\frac{56\,V}{10\,000} \times \frac{100}{m_0} \times \frac{100}{RS}$$

where V, m_0 and RS have the same meanings as in 7.1.1.

7.1.3 Take as the result the arithmetic mean of the two determinations.

8 TEST REPORT

The test report shall show the method used and the result obtained, indicating clearly the mode of expression adopted. It shall also mention any operating details not specified in this International Standard, or regarded as optional, as well as any circumstances that may have influenced the result.

The report shall include all details required for complete identification of the sample.

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